2. Develop a Java program to create a class Student with members usn, name, an array credits and an array marks. Include methods to accept and display details and a method to calculate SGPA of a student.

```
import java.util.Scanner;
class Student
{
        String usn;
        String name;
        int[] credits;
        int[] marks;
        Student(){}
        Student(int numSubjects)
        {
                credits = new int[numSubjects];
                marks = new int[numSubjects];
        }
        void acceptDetails()
        {
                Scanner sc= new Scanner(System.in);
                System.out.println("Enter USN : ");
                usn = sc.next();
                System.out.println("Enter Name : ");
                name = sc.next();

                for(int i=0; i < credits.length;i++)
                {
                        System.out.println("Enter credits for the subject "+(i+1)+" :");
                        credits[i]=sc.nextInt();
                        System.out.println("Enter marks for subject "+(i+1)+" :");
                        marks[i]=sc.nextInt();
                }
        }
        void displayDetails()
        {
                System.out.println("USN : "+usn);
                System.out.println("Name : "+name);
                for(int i=0;i<credits.length;i++)
                {

                        System.out.println(" subject "+(i+1)+" : credits = "+credits[i]+" Marks = "+marks[i]);

                }
        }
```

```
        double calculateSG()
        {
                double totalCredits = 0;
                double totalPoints = 0;
                for( int i=0; i<credits.length; i++)
                {
                        totalCredits += credits[i];
                        if (marks[i]==100)
                                totalPoints +=(10*credits[i]);
                        else
                                totalPoints +=((int)(marks[i]+10)/10)*credits[i];

                }
                if (totalCredits == 0)
                        return 0;
                else
                        return (totalPoints/totalCredits);
        }
}

class StSgCalc
{
        public static void main( String[] xx)
        {
                Scanner s = new Scanner(System.in);
                System.out.println("Enter no. of subjects : ");
                int numSubjects= s.nextInt();
                Student st= new Student(numSubjects);
                st.acceptDetails();
                st.displayDetails();
                double sgpa = st.calculateSG();
                System.out.println("SGPA :"+sgpa);
        }
}
```

```
C:\Users\sammj\OneDrive\Desktop\JAVA LAB\Lab 2>java StSgCalc
Enter no. of subjects :
3
Enter USN :
1BM23CS291
Enter Name :
Sam
Enter credits for the subject 1 :
4
Enter marks for subject 1 :
95
Enter credits for the subject 2 :
3
Enter marks for subject 2 :
84
Enter credits for the subject 3 :
2
Enter marks for subject 3 :
78
USN : 1BM23CS291
Name : Sam
 subject 1 : credits = 4 Marks = 95
 subject 2 : credits = 3 Marks = 84
 subject 3 : credits = 2 Marks = 78
SGPA :9.222222222222221
```

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2 Develop a Java program to create a class student with members usn, name, an array, credits and an array marks.
Include methods to accept and display details ~~of~~ and a method to calculate SGPA of a student

```
import java.util.Scanner;
class Student {
    String usn;
    String name;
    int[] credits;
    int[] marks;
    public Student(int numSubjects)
    {
        credits = new int[numSubjects];
        marks = new int[numSubjects];
    }
    void acceptDetails()
    {
        Scanner s = new Scanner(System.in);
        System.out.println("USN: ")
        usn = s.nextLine();
        System.out.println("Name: ");
        name = s.nextLine();
        for(int i=0; i<credits.length; i++)
        {
            System.out.println("Enter credits for subject "+
                (i+1)+": ");
            credits[i] = s.nextInt();
        System.out.println("Enter marks for subject "+
                (i+1)+": ");
            marks[i] = s.nextInt();
        }
    }
```

```
void displayDetails()
{
    System.out.println("USN :"+usn);
    System.out.println("Name :"+name);
    for(int i=0; i<credits.length; i++)
    {
        System.out.println("Subject"+(i+1)+" :Credits ="
        +credits[i]+", Marks =", +marks[i]);
    }
}
double calculateSG()
{
    double totalCredits=0;
    double totalPoints=0;
    for(int i=0; i<credits.length; i++)
    {
        totalCredits += credits[i];
        totalPoints += ((int)marks[i]/10.0)*credits[i];
    }
    if(totalCredits==0)
    {
        return 0;
    }
    else
    {
        return (totalPoints/totalCredits);
    }
}
}
```

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```
public class StudentSGPACalculator {
    public static void main (String *[] xx)
    {
        Scanner s = new Scanner (System.in);
        System.out.println("Enter no of subjects : ");
        int numSubjects = s.nextInt();
        Student st = new Student (numSubjects);
        st.acceptDetails();
        st.displayDetails();
        double sgpa = st.calculateSGPA()
        System.out.println("SGPA : " + sgpa);
        st.close();
    }
}
```

Output:

Enter no. of subjects : 3
USN: 1BM23CS291
Name: Sam
Enter credits for subject 1 : 4
Enter marks for subject 1 : 95
Enter credits for subject 2 : 3
Enter marks for subject 2 : 84
Enter credits for subject 3 : 2
Enter marks for subject 3 : 78

USN : 1BM23CS291
Name : Sam
Subject 1 : Credits : 4 Marks = 95
Subject 2 : Credits : 3 Marks = 84
Subject 3 : Credits : 2 Marks = 78
SGPA : 9.222222

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